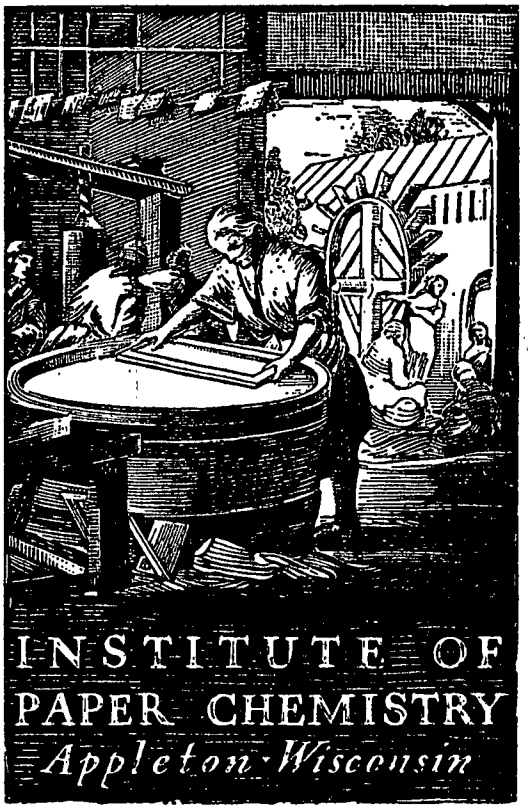

CONTINUOUS BASELINE STUDY

Project 1108-13

Report 178

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

August 1, 1962

CODE LETTERS FOR PROGRESS REPORT 178
PROJECT 1108-13

	Company - Mill	Code Letter
1.	International Paper Company - Panama City	F
2.	International Paper Company - Springhill	O
3.	West Virginia Pulp and Paper Co.	U
4.	Union Bag-Camp Paper Corporation	B
5.	Continental Can Company, Inc. - Hopewell	V
6.	Owens-Illinois Glass Company - Jacksonville	H
7.	St. Joe Paper Company	J
8.	International Paper Company - Georgetown	A
9.	Georgia Kraft Company - Macon	D
10.	Chesapeake Corporation of Virginia	E
11.	Crown Zellerbach Corporation - Bogalusa	N
12.	Continental Can Company, Inc. - Port Wentworth	T
13.	Olin Mathieson Chemical Corporation	G
14.	St. Regis Paper Company - Jacksonville	I
15.	St. Regis Paper Company - Pensacola	L
16.	Owens-Illinois Glass Company - Valdosta	S
17.	Weyerhaeuser Company - North Carolina Div.	P
18.	Rome Kraft Company	C
19.	Container Corporation of America - Fernandina Beach	K
20.	Tennessee River Pulp and Paper Company	M
21.	Crown Zellerbach Corporation - Antioch	Q

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

INTRODUCTION

As requested by the Technical Committee of the Fourdrinier Kraft Board Institute, Inc., the reports pertinent to the continuous baseline study on 42-lb. fourdrinier kraft linerboard are now being prepared by The Institute of Paper Chemistry on a bimonthly basis instead of the previous monthly basis. This new system was initiated on August 1, 1961. This report is the sixth under the new system and presents results obtained during the months of June and July, 1962.

PRESENTATION AND DISCUSSION OF TEST RESULTS

Each sample lot received for evaluation during June and July was evaluated for basis weight, caliper, bursting strength, and Elmendorf tearing strength. The average strength results for each mill may be seen in Table I and are graphically presented in Fig. 1 to 5. In addition to a comparison of the current mill averages for the various tests, Table I also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. For each test, the current mill average represents the average obtained on all sample lots evaluated during a given period, the current F.K.I. average represents the average of the current mill averages, and the cumulative F.K.I. average represents the average of the current F.K.I. averages for the previous twelve months excluding the current period. The F.K.I. index expressed in per cent is the ratio of the current F.K.I. average to the cumulative F.K.I. average.

In Table II, a tabulation of the number of sample lots submitted by each mill during June and July is shown.

Supplementary to the basis weight data given in Table I, a tabulation is given in Table III of the amount by which the basis weight average for each mill varies from the 42-lb. specification set forth in Rule 41.

Shown below from Table I are the maximum and minimum current mill averages for each test and also the current and cumulative F.K.I. averages.

TABLE I

SUMMARY OF COMPOSITE MILL AVERAGES--JUNE AND JULY, 1962

Mill	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	Elmendorf Tear, g./sheet	
				In Machine	Cross Machine
A	43.5	12.7	111	338	393
B	43.1	12.8	111	324	359
C	42.6	12.7	106	324	367
D	43.3	12.9	109	319	383
E	42.3	12.0	112	344	365
F	43.2	12.1	112	326	346
G	No samples submitted.				
H	42.8	11.8	106	359	403
I	43.2	13.2	108	318	391
J	43.3	12.1	111	316	375
K	43.9	12.8	105	376	425
L	No samples submitted.				
M	42.1	14.0	107	256	316
N	42.5	12.8	93	348	379
O	42.9	12.2	109	291	353
P	43.2	13.5	103	323	364
Q	42.2	12.5	112	367	425
S	43.7	12.7	108	365	418
T	42.7	13.1	111	295	350
U	43.0	12.6	106	302	365
V	42.6	13.3	113	320	360
Current FKI Average:	42.9	12.7	108	327	376
Cumulative FKI Average:	42.9	12.6	111	324	370
FKI Index, %	100.0	100.8	97.3	100.9	101.6

TABLE II

NUMBER OF SAMPLE LOTS SUBMITTED BY EACH MILL
DURING JUNE AND JULY, 1962

Mill Code	Number of Sample Lots
A	8
B	8
C	8
D	7
E	6
F	3
G	0
H	4
I	4
J	8
K	5
L	0
M	5
N	5
O	7
P	7
Q	2
S	7
T	7
U	16
V	8
Total	125

TABLE III

PERCENTAGE DEVIATION FROM 42-LB. BASIS WEIGHT SPECIFICATION

Mill Code	
A	+3.6
B	+2.6
C	+1.4
D	+3.1
E	+0.7
F	+2.9
G	--
H	+1.9
I	+2.9
J	+3.1
K	+4.5
L	--
M	+0.2
N	+1.2
O	+2.1
P	+2.9
Q	+0.5
S	+4.0
T	+1.7
U	+2.4
V	+1.4

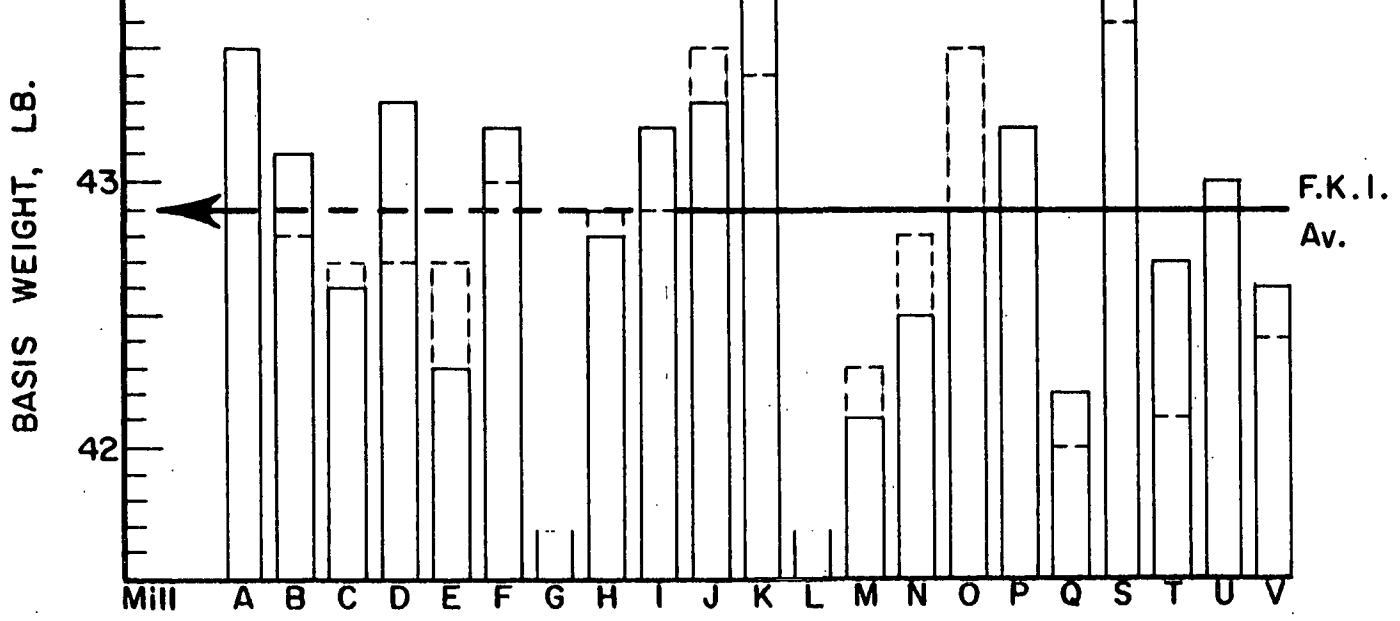

Figure 1. Comparison of Basis Weight Results

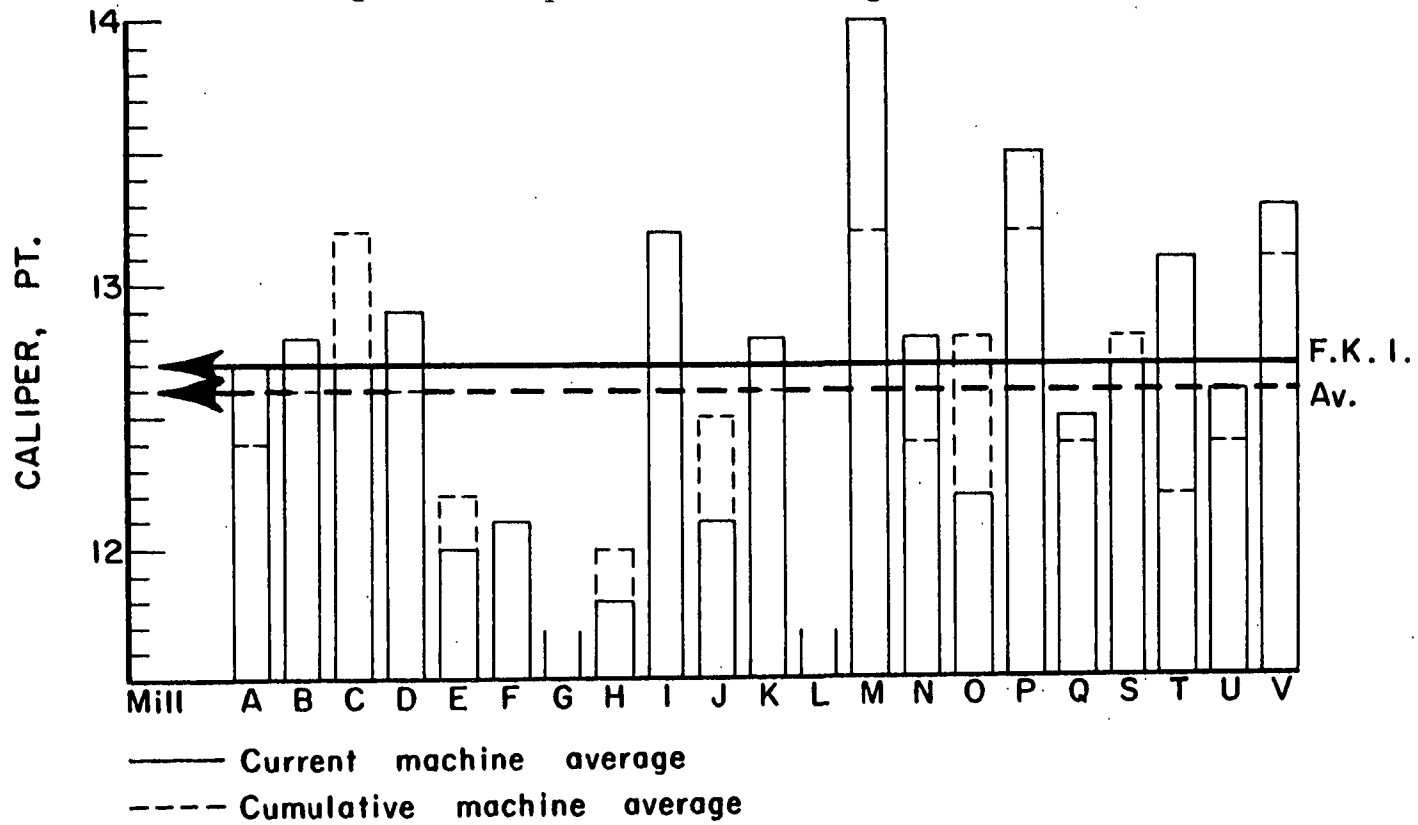

Figure 2. Comparison of Caliper Results

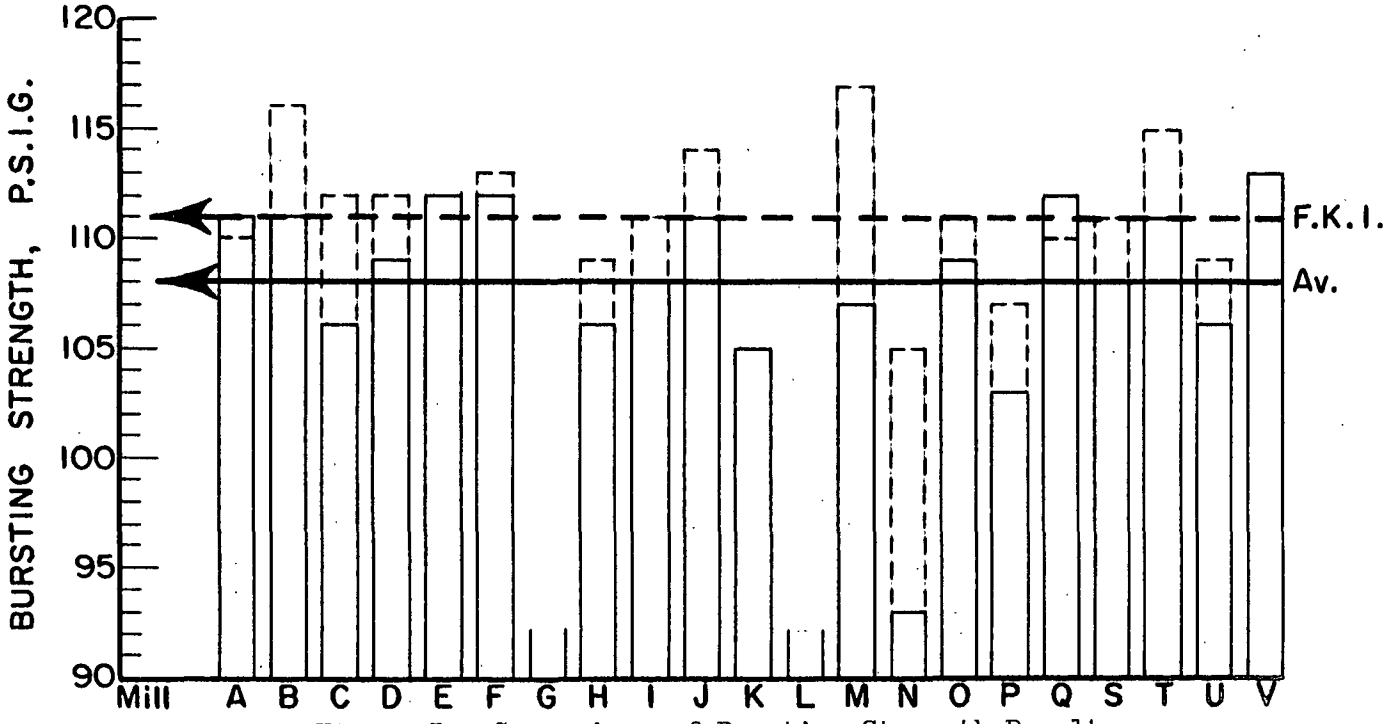

Figure 3. Comparison of Bursting Strength Results

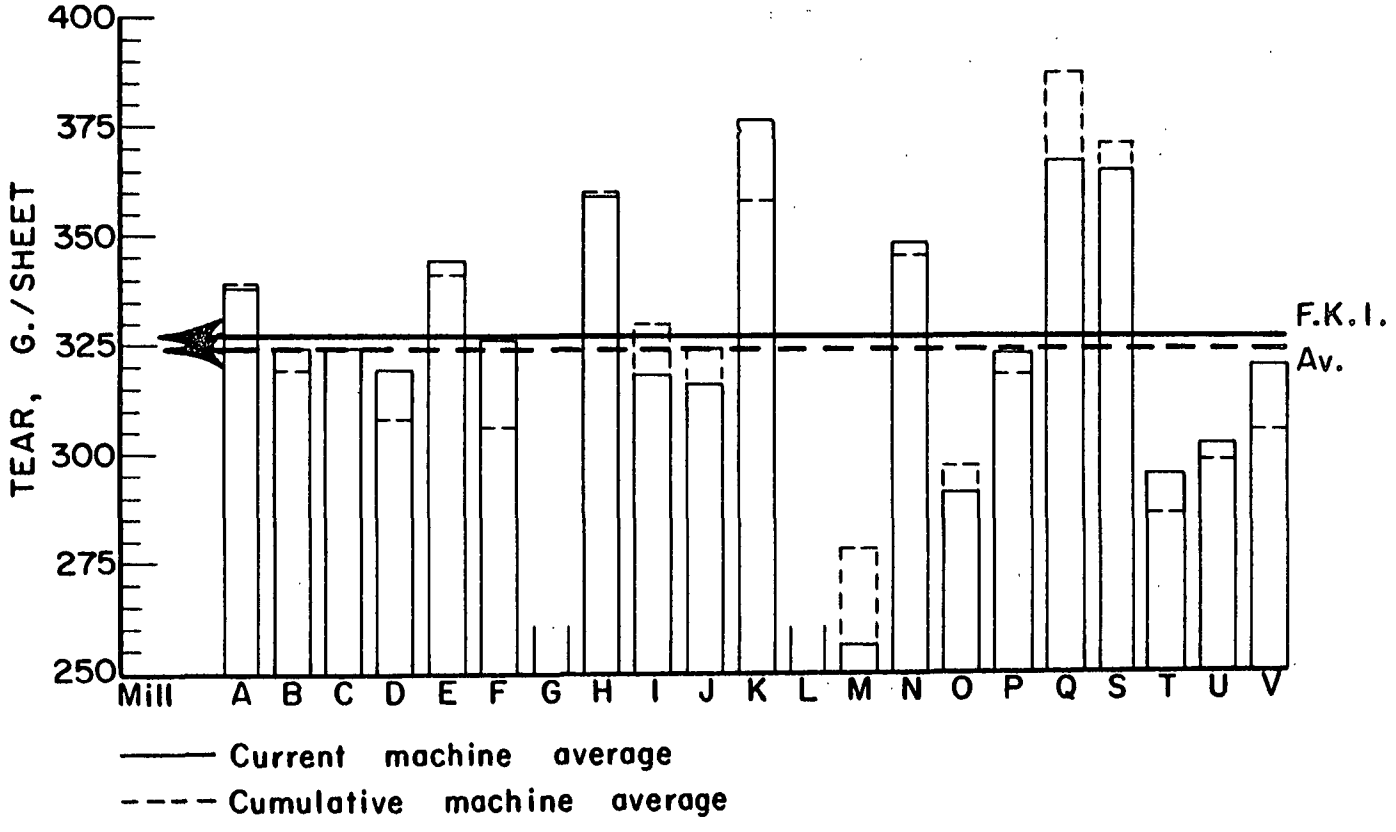

Figure 4. Comparison of Machine-Direction Tear Results

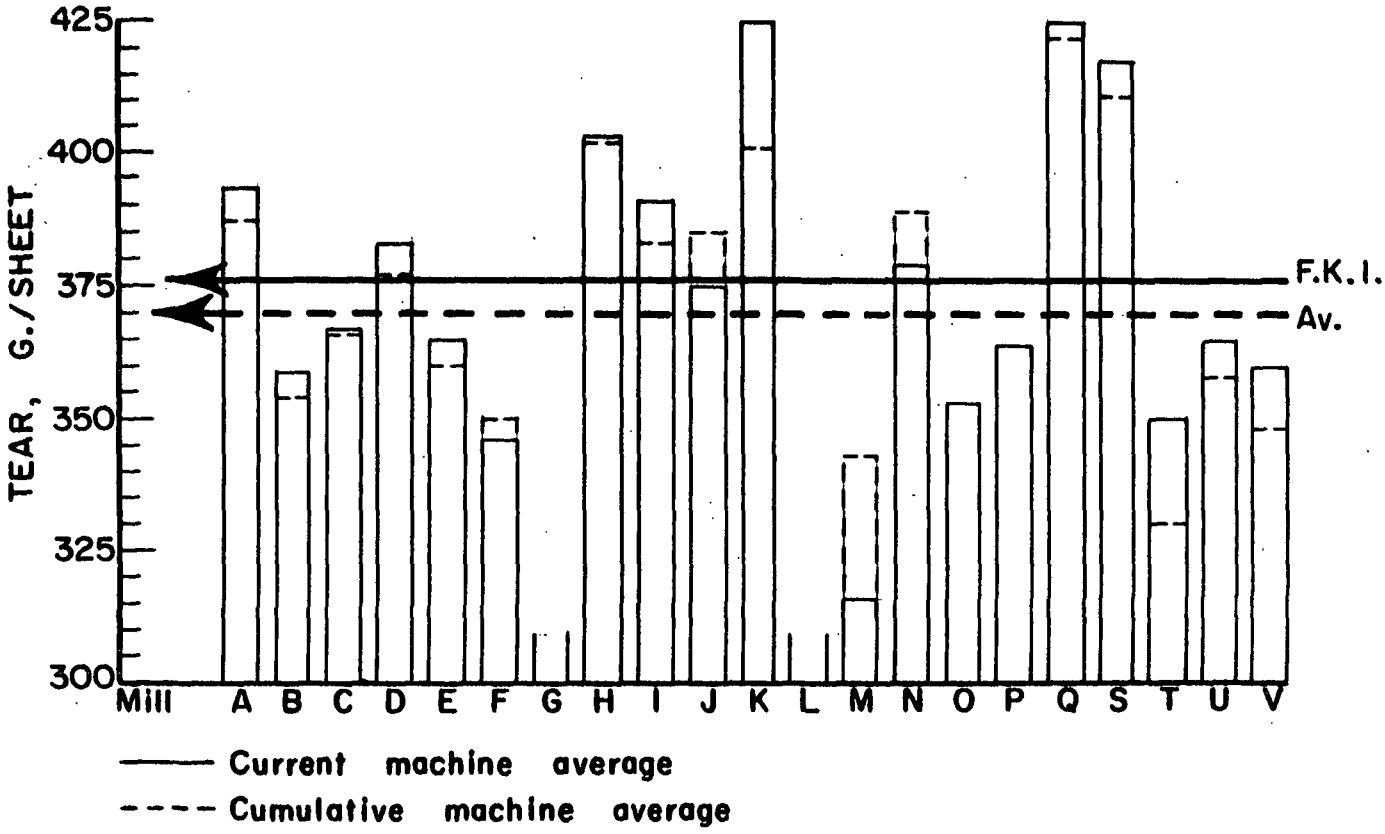

Figure 5. Comparison of Cross-Machine Direction Tear Results

Test	Current Mill Averages Max.	Min.	F.K.I. Averages Current	Cumulative
Basis weight, lb.	43.9	42.1	42.9	42.9
Caliper, points	14.0	11.8	12.7	12.6
Bursting strength, p.s.i. gage	113	93	108	111
Machine direction Elmendorf tear, g./sheet	376	256	327	324
Cross-machine direction Elmendorf tear, g./sheet	425	316	376	370

The test results obtained at the Institute and at the mill during June and July are given alphabetically in Tables IV to XXIV for each mill. Included in each of these tables are the maximum, minimum and average test data obtained at the Institute on each sample lot of linerboard. The data obtained at the Institute include also for each test the calculation of (1) a current mill average that represents the mean of the averages obtained on the individual sample lots of linerboard evaluated during the current period, (2) a cumulative mill average that represents the mean of the current mill averages for the previous twelve months excluding the current period, (3) a mill factor expressed in per cent that represents the ratio of the current mill average to the cumulative mill average, and (4) a mill index expressed in per cent that represents the ratio of the current mill average to the cumulative F.K.I. average. The term "mean" in the preceding discussion is synonymous with the simple arithmetic average. As mentioned above, the results presented in Tables IV to XXIV also include data obtained at the mills. The mill data include for each test (1) the average result obtained on each sample lot of linerboard and (2) a current mill average (calculated at the Institute) that represents the mean of the averages obtained on the individual sample lots of linerboard. In addition to the presentations of Institute and mill data described above, Tables IV through XXIV also include under each test heading a

TABLE IV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL A

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
4-29-62	W.F.	3	43.8	41.8	42.4	43.3	+0.9	13.2	12.1	12.9	12.2	-0.7	120	88	107	107	0	400	272	327	327	0	424	352	395[a]	370	-25
4-30-62	W.F.	3	43.8	42.2	43.0	43.5	+0.5	13.2	12.2	12.9	12.5	-0.4	126	83	107	110	+3	400	304	349	336	-13	416	336	368[a]	386	+18
5- 1-62	W.F.	3	45.4	43.6	44.1	44.2	+0.1	13.7	12.8	13.2	13.0	-0.2	132	84	106	111	+5	400	304	340	343	+ 3	448	336	396[a]	395	- 1
5- 2-62	W.F.	3	44.4	43.2	43.9	44.5	+0.6	13.7	12.3	13.1	12.9	-0.2	123	87	103	110	+7	368	304	336	346	+10	432	344	388[a]	409	+21
5-27-62	W.F.	3	44.2	42.4	43.8	44.1	+0.3	13.0	11.9	12.3	12.3	0.0	140	96	117	122	+5	424	304	353[a]	338	-15	496	360	415[a]	417	+ 2
5-28-62	W.F.	3	44.4	41.6	43.6	43.6	0.0	12.9	12.0	12.4	12.1	-0.3	142	82	117	120	+3	360	288	338[a]	347	+ 9	440	368	399[a]	420	+21
6-29-62	W.F.	3	44.0	43.6	43.9	44.5	+0.6	12.6	12.0	12.1	12.1	0.0	137	97	120	121	+1	392	288	333	338	+ 5	448	368	401[a]	403	+ 2
6-30-62	W.F.	3	44.0	42.2	43.4	43.9	+0.5	13.4	12.8	13.1	12.6	-0.5	125	94	108	110	+2	368	288	329	349	+20	456	352	383[a]	396	+13
Current Mill Average:					43.5	44.0	+0.5			12.7	12.5	-0.2			111	114	+3			338	340	+ 2			393	399	+ 6
Cumulative Mill Average:					43.5					12.4					110					339					387		
Mill Factor, %					100.0					102.4					100.9					99.7					101.6		
Mill Index, %					101.4					100.8					100.0					104.3					106.2		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE V

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL B

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-31-62	W.F.	-	42.4	41.8	42.2	42.4	+0.2	13.2	12.2	13.0	12.8	-0.2	124	89	108	105	- 3	384	272	331[a]	313	-18	392	328	357[a]	361	+ 4
6- 1-62	W.F.	-	44.2	42.0	43.0	43.8	+0.8	13.0	12.2	12.6	12.1	-0.5	135	84	111	118	+ 7	400	304	341[a]	329	-12	376	336	359[a]	347	-12
6- 8-62	W.F.	-	43.8	42.0	42.6	43.0	+0.4	12.8	12.0	12.1	11.8	-0.3	130	97	116	124	+ 8	368	280	321[a]	324	+ 3	400	320	366[a]	374	+ 8
6-15-62	W.F.	-	44.2	42.4	43.4	42.9	-0.5	13.2	12.5	13.0	12.4	-0.6	128	94	113	112	- 1	376	264	311[a]	308	- 3	384	312	342[a]	327	-15
6-28-62	W.F.	-	43.8	42.0	42.8	42.4	-0.4	13.1	12.2	12.8	12.2	-0.6	115	92	104	109	+ 5	368	304	325[a]	331	+ 6	400	320	360[a]	380	+20
6-29-62	W.F.	-	44.2	43.6	44.0	43.1	-0.9	13.8	12.8	13.2	12.7	-0.5	130	94	113	124	+11	408	272	326[a]	331	+ 5	416	336	377[a]	373	- 4
7-13-62	W.F.	-	43.8	42.4	43.2	42.8	-0.4	13.1	12.4	12.9	12.4	-0.5	130	94	110	105	- 5	376	264	313[a]	328	+15	400	304	353[a]	336	-17
7-20-62	W.F.	-	44.0	42.6	43.4	42.8	-0.6	13.0	12.1	12.8	12.2	-0.6	138	96	112	113	+ 1	392	264	323	319	- 4	400	320	356[a]	372	+16
Current Mill Average:					43.1	42.9	-0.2			12.8	12.3	-0.5			111	114	+ 3			324	323	- 1			359	359	0
Cumulative Mill Average:					42.8					12.6					116					319					354		
Mill Factor, %					100.7					101.6					95.7					101.6					101.4		
Mill Index, %					100.5					101.6					100.0					100.0					97.0		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE VI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL C

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
4-27-62	WF1S	1	43.8	42.0	42.4	43.2	+0.8	13.2	12.0	12.8	12.2	-0.6	137	89	106	111	+ 5	384	288	319	351	+32	400	336	361[a]	392	+31
4-28-62	WF1S	1	43.6	42.0	42.4	42.9	+0.5	14.3	13.2	13.9	13.5	-0.4	132	86	111	113	+ 2	376	272	334[a]	341	+ 7	408	320	373[a]	389	+16
5-12-62	WF1S	1	43.8	42.0	42.6	42.9	+0.3	13.1	11.9	12.3	12.1	-0.2	127	85	107	107	0	400	296	359	378	+19	432	320	379[a]	409	+30
5-28-62	WF1S	1	44.2	42.0	42.8	43.1	+0.3	13.3	11.7	12.7	12.4	-0.3	118	87	102	105	+ 3	384	264	318	320	+ 2	416	320	367[a]	377	+10
6- 9-62	WF1S	1	42.8	41.6	42.3	42.7	-0.6	12.5	11.8	12.2	12.0	-0.2	118	87	107	120	+13	360	272	303	330	+27	432	304	353[a]	367	+14
6-10-62	WF1S	1	43.4	41.8	42.5	42.9	+0.4	13.4	11.7	12.4	12.1	-0.3	130	89	106	117	+11	400	288	343[a]	368	+25	416	352	385[a]	407	+22
6-17-62	WF1S	1	44.6	42.4	43.0	43.4	+0.4	13.2	12.3	12.8	12.7	-0.1	117	87	103	116	+13	352	240	300[a]	369	+69	400	336	357[a]	420	+63
6-20-62	WF1S	1	44.0	42.0	42.8	43.0	+0.2	13.0	12.1	12.5	12.4	-0.1	126	88	108	116	+ 8	360	256	319[a]	364	+45	424	320	361[a]	410	+49
Current Mill Average:					42.6	43.0	+0.4			12.7	12.4	-0.3			106	113	+ 7			324	353	+29			367	396	+29
Cumulative Mill Average:					42.7					13.2					112					324					366		
Mill Factor, %					99.8					96.2					94.6					100.0					100.3		
Mill Index, %					99.3					100.8					95.5					100.0					99.2		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE VII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL D

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-21-62	WFlS	1	43.8	42.0	42.9	42.5	-0.4	13.2	12.1	12.8	12.5	-0.3	135	90	113	108	-5	352	272	311	353	+42	432	336	394[a]	443	+49
5-29-62	WFlS	1	43.8	42.2	42.9	43.0	+0.1	13.2	12.2	12.9	12.7	-0.2	122	84	104	108	+4	408	272	310	333	+23	416	336	374[a]	409	+35
6- 6-62	WFlS	1	44.0	42.2	42.9	43.5	+0.6	13.2	12.0	12.6	12.7	+0.1	125	90	104	104	0	336	288	307[a]	369	+62	424	336	368[a]	435	+67
6-25-62	WFlS	1	44.0	42.4	43.0	43.3	+0.3	13.8	12.2	13.0	12.8	-0.2	133	83	112	113	+1	368	256	328	333	+ 5	456	352	401[a]	413	+12
7- 6-62	WFlS	1	44.0	42.8	43.8	43.6	-0.2	13.5	12.1	12.8	12.9	+0.1	128	93	111	109	-2	384	272	320	363	+43	416	336	383[a]	426	+43
7-11-62	WFlS	1	44.0	42.8	43.8	42.8	-1.0	13.9	12.2	13.0	12.8	-0.2	127	86	109	106	-3	368	256	329	397	+68	448	336	376[a]	423	+47
7-17-62	WFlS	1	44.0	42.8	43.7	43.3	-0.4	13.1	12.2	12.9	12.7	-0.2	132	95	111	107	-4	400	264	325	364	+39	424	320	384[a]	449	+65
Current Mill Average:					43.3	43.2	-0.1			12.9	12.7	-0.2			109	108	-1			319	359	+40			383	428	+45
Cumulative Mill Average:					42.7					12.6					112					308					377		
Mill Factor, %					101.4					102.4					97.3					103.6					101.6		
Mill Index, %					100.9					102.4					98.2					98.5					103.5		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE VIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL E

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-16-62	W.F.	-	42.8	41.6	42.0	42.4	+0.4	12.8	11.2	12.1	11.6	-0.5	130	90	111	113	+2	424	320	361[a]	328	-33	432	336	386[a]	387	+ 1
5-16-62	W.F.	-	42.4	41.4	42.0	42.4	+0.4	12.8	11.2	12.0	12.0	0.0	133	82	113	110	-3	384	320	350	332	-18	432	336	367[a]	384	+17
6- 5-62	W.F.	-	43.6	41.0	42.3	42.7	+0.4	12.9	11.0	12.0	12.3	+0.3	130	90	110	110	0	400	288	347[a]	328	-19	400	288	364[a]	363	- 1
6- 5-62	W.F.	-	43.8	40.6	42.6	42.3	-0.3	12.5	11.2	11.9	12.0	+0.1	135	96	116	113	-3	384	272	327[a]	331	+ 4	400	296	359[a]	371	+12
6-28-62	W.F.	-	44.0	42.2	43.1	42.4	-0.7	12.6	11.3	11.9	12.0	+0.1	127	96	111	107	-4	392	304	341	334	- 7	408	344	369[a]	376	+ 7
6-28-62	W.F.	-	42.8	41.8	42.0	43.7	+1.7	12.3	11.2	11.9	12.0	+0.1	130	97	109	104	-5	432	304	339[a]	335	- 4	384	304	344[a]	390	+46
Current Mill Average:					42.3	42.7	+0.4			12.0	12.0	0.0			112	109	-3			344	331	-13			365	379	+14
Cumulative Mill Average:					42.7					12.2					112					341					360		
Mill Factor, %					99.1					98.4					100.0					100.9					101.4		
Mill Index, %					98.6					95.2					100.9					106.2					98.6		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE IX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL F

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
6-21-62	W.F.	1	43.4	42.4	42.8	43.8	+1.0	12.9	12.1	12.4	12.2	-0.2	126	89	111	113	+2	376	280	315[a]	371	+56	416	320	349[a]	389	+40
6-26-62	W.F.	1	44.0	42.0	43.1	43.6	+0.5	12.5	11.5	12.1	11.9	-0.2	133	88	108	110	+2	368	272	302[a]	324	+22	360	304	343[a]	346	+ 3
7-15-62	W.F.	1	44.0	42.8	43.6	43.4	-0.2	12.2	11.3	11.9	11.6	-0.3	142	99	117	113	-4	416	312	359[a]	344	-15	400	304	347[a]	343	- 4
Current Mill Average:					43.2	43.6	+0.4			12.1	11.9	-0.2			112	112	0			326	346	+20			346	359	+13
Cumulative Mill Average:					43.0					12.1					113					306					350		
Mill Factor, %					100.5					100.0					99.1					106.5					98.9		
Mill Index, %					100.7					96.0					100.9					100.6					93.5		

TABLE X

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL G

No samples submitted.

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL H

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
6-15-62	W.B.	-	44.0	42.0	42.5	43.0	+0.5	12.2	11.1	11.8	11.3	-0.5	131	70	107	113	+6	408	320	365[a]	345	-20	448	368	411[a]	403	- 8
6-25-62	W.B.	-	43.8	41.8	42.4	42.7	+0.3	12.1	11.1	11.7	11.4	-0.3	127	82	109	110	+1	408	320	359[a]	380	+21	432	368	399[a]	397	- 2
6-26-62	W.B.	-	43.2	42.4	42.7	43.2	+0.5	12.1	10.8	11.6	11.4	-0.2	135	83	107	111	+4	432	320	368[a]	367	- 1	432	368	395[a]	399	+ 4
7-11-62	W.B.	-	44.2	42.2	43.8	43.3	-0.5	12.2	11.5	12.0	11.4	-0.6	125	82	101	106	+5	384	312	344	367	+23	448	368	405[a]	431	+26
Current Mill Average:					42.8	43.0	+0.2			11.8	11.4	-0.4			106	110	+4			359	365	+ 6			403	407	+ 4
Cumulative Mill Average:					42.9					12.0					109					360					402		
Mill Factor, %					99.8					98.3					97.2					99.7					100.2		
Mill Index, %					99.8					93.7					95.5					110.8					108.9		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL I

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-14-62	WFlS	2	44.0	42.4	43.6	42.6	-1.0	13.9	13.0	13.3	13.4	+0.1	136	86	110	111	+1	400	288	349	351	+ 2	456	384	418[a]	441	+23
6-14-62	WFlS	2	44.4	42.8	43.6	42.6	-1.0	14.1	13.1	13.5	13.2	-0.3	132	84	108	113	+5	368	288	326[a]	366	+40	432	352	388[a]	433	+45
6-30-62	WFlS	2	43.8	42.0	43.0	42.8	-0.2	13.2	12.4	13.0	12.9	-0.1	132	89	112	115	+3	368	240	297	362	+65	432	352	384[a]	457	+73
7-14-62	WFlS	2	43.8	42.0	42.5	42.7	+0.2	13.2	12.4	13.0	12.5	-0.5	118	85	103	107	+4	328	280	299[a]	347	+48	416	336	374[a]	431	+57
Current Mill Average:					43.2	42.7	-0.5			13.2	13.0	-0.2			108	111	+3			318	357	+39			391	441	+50
Cumulative Mill Average:					42.9					13.2					111					330					383		
Mill Factor, %					100.7					100.0					97.3					96.4					102.1		
Mill Index, %					100.7					104.8					97.3					98.1					105.7		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL J

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-19-62	W.F.	2	44.2	43.8	44.0	44.3	+0.3	12.1	11.6	12.0	12.0	0.0	137	98	118	115	-3	384	288	334[a]	346	+12	432	344	385[a]	424	+39
5-20-62	W.F.	2	44.0	42.0	43.3	43.3	0.0	12.6	11.6	12.2	12.0	-0.2	132	89	110	111	+1	376	240	303[a]	310	+ 7	400	320	367[a]	381	+14
5-21-62	W.F.	2	44.2	43.6	43.9	44.0	+0.1	12.8	12.0	12.3	12.2	-0.1	128	96	110	109	-1	368	288	321	323	+ 2	432	344	391[a]	391	0
5-22-62	W.F.	2	44.2	42.4	43.7	44.0	+0.3	13.0	11.9	12.1	12.2	+0.1	127	89	108	110	+2	352	272	312	313	+ 1	384	336	353[a]	395	+42
6- 8-62	W.F.	2	44.2	43.6	43.9	44.2	+0.3	12.4	11.2	12.0	12.2	+0.2	128	99	112	112	0	384	272	328[a]	323	- 5	416	344	373[a]	400	+27
6-16-62	W.F.	2	43.6	42.0	42.6	42.9	+0.3	12.8	11.3	11.9	11.8	-0.1	129	90	109	110	+1	336	280	309[a]	325	+16	480	336	383[a]	387	+ 4
6-17-62	W.F.	2	43.2	42.0	42.5	42.9	+0.4	12.8	11.4	12.0	11.8	-0.2	127	84	109	110	+1	352	256	303	311	+ 8	440	336	388[a]	386	- 2
6-21-62	W.F.	2	43.8	42.0	42.7	43.3	+0.6	12.7	11.8	12.1	12.0	-0.1	128	95	114	112	-2	384	256	321[a]	311	-10	400	320	359[a]	394	+35
Current Mill Average:					43.3	43.6	+0.3			12.1	12.0	-0.1			111	111	0			316	320	+ 4			375	395	+20
Cumulative Mill Average:					43.5					12.5					114					324					385		
Mill Factor, %					99.5					96.8					97.4					97.5					97.4		
Mill Index, %					100.9					96.0					100.0					97.5					101.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL K

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5- 9-62	WFlS	2	44.2	42.6	44.0	43.9	-0.1	13.2	12.5	13.0	13.0	0.0	118	78	101	108	+7	432	296	373[a]	---	---	496	384	433[a]	---	---
5-10-62	WFlS	2	44.8	43.8	44.0	43.5	-0.5	13.2	12.2	12.9	12.7	-0.2	135	86	107	110	+3	456	352	398	---	---	504	368	439[a]	---	---
6- 1-62	WFlS	1	44.0	43.2	43.8	43.6	-0.2	13.1	12.0	12.8	12.8	0.0	120	87	104	111	+7	432	320	359[a]	---	---	448	368	419[a]	---	---
6- 4-62	WFlS	2	44.2	42.2	43.5	43.0	-0.5	13.1	12.1	12.7	12.8	+0.1	140	82	106	110	+4	400	288	345[a]	---	---	448	352	402[a]	---	---
6- 5-62	WFlS	2	44.8	43.8	44.1	43.8	-0.3	13.0	12.0	12.6	12.5	-0.1	132	81	106	112	+6	464	336	403[a]	---	---	472	368	434[a]	---	---
Current Mill Average:					43.9	43.6	-0.3			12.8	12.8	0.0			105	110	+5			376	---	---			425	---	---
Cumulative Mill Average:					43.4					12.6					105					358					401		
Mill Factor, %					101.2					101.6					100.0					105.0					106.0		
Mill Index, %					102.3					101.6					94.6					116.0					114.9		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL L

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Min.	Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Min.	Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Min.	Av.	Mill Av.	Diff.
No samples submitted.																											

TABLE XVI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL M

5-16-62	MF1S	1	42.4	41.8	42.0	42.4	+0.4	14.3	13.5	13.9	13.2	-0.7	122	87	105	109	+ 4	312	240	259	272	+13	336	280	308[a]	328	+20
5-23-62	MF1S	1	42.2	41.6	42.0	42.4	+0.4	14.8	13.9	14.3	13.7	-0.6	124	92	108	113	+ 5	288	216	252	280	+28	352	296	316[a]	347	+31
6- 8-62	MF1S	1	42.8	41.6	42.0	42.4	+0.4	14.6	13.8	14.3	13.7	-0.6	126	81	107	114	+ 7	288	208	242[a]	288	+46	352	272	313[a]	354	+41
6-12-62	----	1	42.4	41.4	41.7	42.1	+0.4	14.0	13.0	13.4	13.1	-0.3	125	96	111	120	+ 9	312	192	258[a]	283	+25	400	272	315[a]	357	+42
6-20-62	----	1	43.6	42.6	42.8	43.2	+0.4	14.4	13.2	14.0	13.6	-0.4	120	78	102	113	+11	296	224	267[a]	293	+26	384	288	328[a]	362	+34
Current Mill Average:					42.1	42.5	+0.4			14.0	13.5	-0.5			107	114	+ 7			256	283	+27			316	349	+33
Cumulative Mill Average:					42.3					13.2					117					278					343		
Mill Factor, %					99.5					106.1					91.5					92.1					92.1		
Mill Index, %					98.1					111.1					96.4					79.0					85.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XVII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL N

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-25-62	S.F.	7	44.0	41.8	42.7	42.8	+0.1	13.1	11.0	12.3	12.2	-0.1	118	71	96	105	+ 9	416	304	345[a]	353	+ 8	400	352	378[a]	385	+ 7
6- 5-62	S.F.	7	41.2	39.0	39.9	40.3	+0.4	12.7	11.5	12.0	12.2	+0.2	110	73	91	99	+ 8	440	288	356[a]	350	- 6	376	344	361[a]	353	- 8
6-12-62	S.F.	7	44.2	40.6	42.6	42.6	0.0	13.5	12.1	12.9	12.8	-0.1	124	74	95	104	+ 9	360	304	331	334	+ 3	432	336	389[a]	375	-14
6-26-62	S.F.	7	45.0	42.2	43.4	43.4	0.0	14.1	12.9	13.4	12.9	-0.5	120	71	92	105	+13	400	320	364[a]	338	-26	432	352	389[a]	389	0
7-17-62	S.F.	7	44.4	42.8	43.9	43.9	0.0	14.0	12.7	13.2	13.0	-0.2	112	71	89	95	+ 6	400	288	343	360	+17	416	320	376[a]	418	+42
Current Mill Average:					42.5	42.6	+0.1			12.8	12.6	-0.2			93	102	+ 9			348	347	- 1			379	384	+ 5
Cumulative Mill Average:					42.8					12.4					105					345					389		
Mill Factor, %					99.3					103.2					88.6					100.9					97.4		
Mill Index, %					99.1					101.6					83.8					107.4					102.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XVIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL O

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-11-62	W.F.	1	45.2	42.6	44.0	43.8	-0.2	13.3	12.3	12.9	12.6	-0.3	131	85	110	112	+2	320	264	295	291	- 4	432	328	370[a]	382	+12
5-22-62	W.F.	1	44.2	42.0	43.4	43.5	+0.1	13.0	12.0	12.4	12.2	-0.2	132	90	112	110	-2	392	256	325[a]	313	-12	408	336	370[a]	371	+ 1
5-30-62	W.F.	1	43.6	41.8	42.3	42.1	-0.2	13.0	11.2	12.0	11.6	-0.4	136	94	110	112	+2	336	272	297	298	+ 1	384	320	353[a]	351	- 2
6- 5-62	W.F.	1	43.8	42.0	42.3	42.3	0.0	12.3	11.5	11.9	11.8	-0.1	125	92	107	113	+6	320	216	272[a]	269	- 3	384	320	351[a]	342	- 9
6-11-62	W.F.	1	44.4	42.0	43.6	43.6	0.0	12.7	11.9	12.2	12.1	-0.1	127	84	109	109	0	336	248	299[a]	289	-10	384	328	359[a]	353	- 6
6-18-62	W.F.	1	42.8	41.6	42.2	42.3	+0.1	12.7	11.3	11.9	11.7	-0.2	130	91	110	109	-1	328	224	281	287	+ 6	384	312	339[a]	352	+13
6-25-62	W.F.	1	43.6	42.0	42.5	42.6	+0.1	12.8	11.7	12.2	11.9	-0.3	124	87	107	111	+4	304	248	269	290	+21	368	304	332[a]	353	+21
Current Mill Average:					42.9	42.9	0.0			12.2	12.0	-0.2			109	111	+2			291	291	0			353	358	+ 5
Cumulative Mill Average:					43.5					12.8					111					297					353		
Mill Factor, %					98.6					95.3					98.2					98.0					100.0		
Mill Index, %					100.0					96.8					98.2					89.8					95.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL P

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5- 7-62	----	1	44.2	42.0	43.1	43.3	+0.2	13.9	12.8	13.1	12.4	-0.7	125	90	103	113	+10	408	272	326[a]	282	-44	400	312	349[a]	348	- 1
5-14-62	----	1	44.2	41.8	42.6	42.6	0.0	14.2	13.0	13.7	13.5	-0.2	121	79	100	103	+ 3	408	256	325[a]	289	-36	432	336	387[a]	366	-21
6- 7-62	----	1	44.2	40.4	42.9	42.5	-0.4	14.3	12.4	13.3	12.5	-0.8	119	70	98	103	+ 5	384	272	311[a]	267	-44	384	312	343[a]	337	- 6
6- 7-62	----	-	44.6	42.6	43.6	43.4	-0.2	14.4	13.3	14.0	13.1	-0.9	125	92	108	111	+ 3	400	264	340[a]	270	-70	416	336	375[a]	351	-24
6-21-62	----	1	43.6	41.8	42.6	41.9	-0.7	14.2	12.9	13.4	12.9	-0.5	121	68	100	104	+ 4	376	272	329	291	-38	400	320	355[a]	346	- 9
6-21-62	----	1	44.8	43.4	44.1	43.7	-0.4	14.9	12.2	14.0	13.3	-0.7	123	80	107	109	+ 2	368	288	325	305	-20	416	336	370[a]	374	+ 4
6-24-62	----	1	44.0	42.2	43.2	42.5	-0.7	13.7	12.2	13.0	12.6	-0.4	138	78	107	106	- 1	328	288	307	298	- 9	400	352	369[a]	369	0
Current Mill Average:					43.2	42.9	-0.3			13.5	12.9	-0.6			103	107	+ 4			323	286	-37			364	356	- 8
Cumulative Mill Average:					43.2					13.2					107					318					364		
Mill Factor, %					100.0					102.3					96.3					101.6					100.0		
Mill Index, %					100.7					107.1					92.8					99.7					98.4		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL Q

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Min.	Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Min.	Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Min.	Av.	Mill Av.	Diff.
5-21-62	MSF	1	42.4	41.2	41.9	41.2	-0.7	13.1	12.0	12.5	12.2	-0.3	136	93	113	123	+10	416	320	363	303	-60	480	392	429[a]	365	-64
6- 5-62	MSF	1	43.8	42.0	42.5	42.9	+0.4	13.1	12.0	12.6	12.2	-0.4	135	84	111	121	+10	464	320	371[a]	332	-39	464	384	421[a]	369	-52
Current Mill Average:					42.2	42.0	-0.2			12.5	12.2	-0.3			112	122	+10			367	318	-49			425	367	-58
Cumulative Mill Average:					42.0					12.4					110					387					422		
Mill Factor, %					100.5					100.8					101.8					94.8					100.7		
Mill Index, %					98.4					99.2					100.9					113.3					114.9		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL S

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5- 6-62	W.B.	-	44.2	43.8	44.0	43.3	-0.7	13.1	12.1	12.7	12.5	-0.2	128	91	112	114	+2	432	344	365[a]	423	+58	464	368	405[a]	453	+48
5-16-62	W.B.	-	44.2	42.2	43.6	43.1	-0.5	13.8	13.0	13.2	13.0	-0.2	124	84	103	107	+4	432	304	360[a]	408	+48	464	352	416[a]	445	+29
5-26-62	W.B.	-	44.0	42.4	43.5	42.9	-0.6	13.1	11.9	12.4	12.2	-0.2	140	84	106	107	+1	384	312	346[a]	411	+65	480	336	394[a]	411	+17
5-30-62	W.B.	-	44.0	42.6	43.6	43.2	-0.4	13.2	12.5	13.0	12.7	-0.3	126	89	108	108	0	408	312	347	443	+96	480	368	413[a]	409	- 4
6- 2-62	W.B.	-	44.2	42.0	43.6	43.5	-0.1	13.0	11.9	12.3	11.9	-0.4	130	89	111	116	+5	416	336	374[a]	372	- 2	480	384	431[a]	445	+14
6-17-62	W.B.	-	44.2	42.0	43.6	42.8	-0.8	13.2	12.0	12.6	12.4	-0.2	120	92	106	110	+4	456	352	382[a]	380	- 2	464	384	427[a]	401	-26
6-18-62	W.B.	-	44.8	42.4	43.8	43.0	-0.8	13.0	12.1	12.5	12.6	+0.1	136	88	109	110	+1	424	320	381[a]	408	+27	512	384	439[a]	411	-28
Current Mill Average:					43.7	43.1	-0.6			12.7	12.5	-0.2			108	110	+2			365	406	+41			418	425	+ 7
Cumulative Mill Average:					43.6					12.8					111					371					411		
Mill Factor, %					100.2					99.2					97.3					98.4					101.7		
Mill Index, %					101.9					100.8					97.3					112.7					113.0		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL T

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-17-62	W.F.	1	42.4	41.8	42.1	42.0	-0.1	12.3	12.0	12.1	12.0	-0.1	138	89	112	113	+ 1	336	256	289[a]	253	-36	368	320	335[a]	332	- 3
5-27-62	W.F.	1	42.4	41.8	42.1	42.0	-0.1	12.3	12.0	12.1	12.0	-0.1	132	85	110	111	+ 1	328	240	279	247	-32	368	288	328[a]	332	+ 4
6- 6-62	W.F.	1	43.8	42.4	43.4	42.5	-0.9	13.8	12.9	13.3	13.1	-0.2	141	89	116	120	+ 4	344	288	321[a]	283	-38	440	344	364[a]	356	-28
6-14-62	W.F.	1	43.6	42.6	43.0	43.2	+0.2	13.8	13.2	13.6	13.5	-0.1	133	85	113	121	+ 8	336	232	299[a]	267	-32	384	336	359[a]	370	+11
6-20-62	W.F.	1	42.4	42.0	42.1	42.0	-0.1	13.7	13.0	13.3	13.2	-0.1	130	85	107	107	0	320	256	287	275	-12	392	304	337[a]	341	+ 4
6-28-62	W.F.	1	43.2	42.0	42.4	41.8	-0.6	13.9	13.1	13.4	13.6	+0.2	116	80	99	109	+10	304	240	287	238	-49	384	296	343[a]	333	-10
7-12-62	W.F.	1	44.0	42.6	43.7	42.7	-1.0	14.0	13.2	13.7	13.2	-0.5	142	90	119	119	0	360	272	301	270	-31	392	336	367[a]	365	- 2
Current Mill Average:					42.7	42.3	-0.4			13.1	13.0	-0.1			111	114	+ 3			295	262	-33			350	347	- 3
Cumulative Mill Average:					42.1					12.2					115					286					330		
Mill Factor, %					101.4					107.4					96.5					103.1					106.1		
Mill Index, %					99.5					104.0					100.0					91.0					94.6		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL U

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb.					Caliper, points					Bursting Strength, p.s.i. gage					Elmendorf Tear, g./sheet In Machine					Elmendorf Tear, g./sheet Cross Machine				
			Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill		Institute			Mill	
			Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.	Max.	Min.	Av.	Av.	Diff.
5-21-62	W.F.	1	44.2	42.4	43.6	43.6	0.0	13.0	12.0	12.4	12.2	-0.2	125	82	105	109	+4	360	272	307[a]	336	+29	384	328	363[a]	402	+39
5- 3-62	W.F.	1	44.0	41.6	42.4	42.5	+0.1	12.9	11.2	12.0	11.9	-0.1	123	99	111	109	-2	336	208	285[a]	320	+35	416	336	370[a]	385	+15
5-16-62	W.F.	1	44.2	42.4	43.4	43.7	+0.3	13.3	12.5	12.8	12.6	-0.2	131	84	108	109	+1	352	280	309	350	+41	408	344	381[a]	413	+32
5-22-62	W.F.	1	43.8	41.6	42.2	42.3	+0.1	12.9	11.7	12.1	11.8	-0.3	117	86	104	111	+7	392	288	323	341	+18	416	336	383[a]	394	+11
6- 1-62	W.F.	1	44.2	42.0	43.0	43.5	+0.5	12.9	11.9	12.4	12.1	-0.3	121	87	106	112	+6	344	248	287	320	+33	400	336	361[a]	399	+38
6- 4-62	W.F.	1	43.8	40.6	42.6	43.2	+0.6	12.5	11.3	11.9	11.9	0.0	126	82	104	109	+5	352	256	305	335	+30	408	328	363[a]	388	+25
6- 2-62	W.F.	1	43.2	41.0	42.2	42.8	+0.6	12.8	11.9	12.4	12.2	-0.2	122	81	100	108	+8	360	272	322	334	+12	416	336	374[a]	407	+33
6- 7-62	W.F.	1	44.4	42.0	43.2	43.6	+0.4	13.3	12.4	12.8	12.4	-0.4	118	91	104	110	+6	368	272	301[a]	333	+32	416	304	359[a]	404	+45
6-19-62	W.F.	1	44.0	42.0	43.1	43.1	0.0	13.1	12.1	12.6	12.6	0.0	122	82	107	108	+1	368	232	295	317	+22	376	336	357[a]	386	+29
6- 7-62	W.F.	1	44.4	42.2	43.3	43.4	+0.1	13.1	12.2	12.9	12.7	-0.2	117	79	101	105	+4	344	240	297[a]	298	+ 1	384	312	349[a]	379	+30
6-23-62	W.F.	1	43.0	41.8	42.2	42.3	+0.1	12.9	11.9	12.2	12.1	-0.1	124	90	109	109	0	320	240	278	314	+36	376	320	335[a]	390	+55
6-30-62	W.F.	1	45.0	43.8	44.1	44.2	+0.1	14.0	13.0	13.3	13.1	-0.2	128	80	107	109	+2	400	248	319	324	+ 5	424	336	387[a]	396	+ 9
7- 1-62	W.F.	1	44.0	42.2	43.6	43.3	-0.3	13.4	12.1	12.9	12.8	-0.1	125	88	107	107	0	384	248	289	308	+19	384	320	351[a]	378	+27
7- 3-62	W.F.	1	43.8	41.8	42.6	42.8	+0.2	13.1	12.1	12.7	12.7	0.0	115	88	105	107	+2	336	240	297	306	+ 9	392	336	366[a]	375	+ 9
7- 5-62	W.F.	1	43.8	42.0	42.8	43.1	+0.3	13.1	12.1	12.8	12.8	0.0	127	85	104	105	+1	328	272	298	319	+21	384	320	357[a]	391	+34
7-15-62	W.F.	1	44.2	42.8	43.7	43.6	-0.1	13.2	12.2	12.7	12.6	-0.1	132	100	115	114	-1	352	272	313	324	+11	416	336	377[a]	393	+16
Current Mill Average:					43.0	43.2	+0.2			12.6	12.4	-0.2			106	109	+3			302	324	+22			365	393	+28
Cumulative Mill Average:					43.0					12.4					109					298					358		
Mill Factor, %					100.0					101.6					97.2					101.3					102.0		
Mill Index, %					100.2					100.0					95.5					93.2					98.6		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XXIV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL V

June and July, 1962

Date Made	Finish	Mch. No.	Basis Weight, lb. Institute Max.	Min.	Av.	Mill Av.	Diff.	Caliper, points Institute Max.	Min.	Av.	Mill Av.	Diff.	Bursting Strength, p.s.i. gage Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet In Machine Institute Max.	Min.	Av.	Mill Av.	Diff.	Elmendorf Tear, g./sheet Cross Machine Institute Max.	Min.	Av.	Mill Av.	Diff.
5-23-62	WF1S	2	42.4	42.0	42.1	43.3	+1.2	14.0	13.0	13.5	13.5	0.0	130	88	110	114	+ 4	392	248	317[a]	344	+27	408	320	362[a]	461	+99
6- 1-62	WF1S	2	43.0	41.8	42.2	42.8	+0.6	14.1	12.8	13.1	13.0	-0.1	139	96	118	115	- 3	336	256	293[a]	330	+37	384	328	355[a]	417	+62
6- 9-62	WF1S	2	44.2	42.2	43.2	43.2	0.0	14.8	13.5	14.1	13.8	-0.3	142	92	118	118	0	416	288	327[a]	320	- 7	440	336	379[a]	412	+33
6-14-62	WF1S	2	42.4	42.0	42.1	42.8	+0.7	13.3	12.7	13.0	13.0	0.0	142	96	117	124	+ 7	336	280	307[a]	315	+ 8	368	320	348[a]	403	+55
6-23-62	WF1S	2	43.2	41.8	42.4	42.7	+0.3	13.3	12.4	13.0	13.0	0.0	130	78	112	121	+ 9	384	288	322[a]	349	+27	400	336	360[a]	387	+27
7- 3-62	WF1S	2	44.0	42.2	43.2	43.0	-0.2	14.0	13.2	13.7	13.2	-0.5	123	75	100	114	+14	432	296	335[a]	336	+ 1	432	320	361[a]	405	+44
7- 5-62	WF1S	2	43.8	42.2	43.1	43.7	+0.6	13.3	12.7	13.1	12.8	-0.3	141	100	123	128	+ 5	384	288	332[a]	352	+20	368	320	349[a]	420	+71
7-16-62	WF1S	2	42.2	42.0	42.1	42.3	+0.2	13.3	12.3	12.9	12.8	-0.1	135	78	108	118	+10	376	288	329[a]	333	+ 4	400	352	370[a]	405	+35
Current Mill Average:					42.6	43.0	+0.4			13.3	13.1	-0.2			113	119	+ 6			320	335	+15			360	414	+54
Cumulative Mill Average:					42.4					13.1					113					305					348		
Mill Factor, %					100.5					101.5					100.0					104.9					103.4		
Mill Index, %					99.3					105.6					101.8					98.8					97.3		

[a]This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

column labeled "Diff." This column shows the differences between averages obtained at the Institute and those obtained at the mills. The data obtained at the Institute are used as the reference in calculating these differences.

The average test results obtained at the Institute and at the mills are summarized in Table XXV for the current period. Shown in this table for each mill is the difference for each test between the current mill average based on Institute data and the current mill average based on mill data. In addition, for each test the maximum difference encountered in comparing Institute and mill averages for individual sample lots is shown. In Table XXVI, the differences for each test between the current mill averages based on Institute data and those based on mill data shown in Table XXV have been converted to per cent (based on Institute data as a reference). In addition, for purposes of comparison, the percentage differences from the previous bimonthly report are shown.

A summary of the agreement obtained in the comparisons of Institute and mill test data for the current period is shown in Table XXVII. This summary is based on the results given in Table XXVI. The tabulated data show the number of mills, and the percentage of all mills which this number represents, whose average test results for the current period fall within designated percentages from the average test results obtained at the Institute. It may be noted from this summary that agreement between the results obtained at the Institute and those obtained at the mills was generally very good.

Preconditioning and conditioning data pertinent to the test results obtained at the mills during the current period are given in Table XXVIII.

TABLE XXV

SUMMARY OF TEST RESULT COMPARISONS (Average Mill and Institute Results)

Mills[a]	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S	T	U	V
No. of samples compared	8	8	8	7	6	3	0	4	4	8	5	0	5	5	7	7	2	7	7	16	8
Basis Weight																					
Institute	43.5	43.1	42.6	43.3	42.3	43.2		42.8	43.2	43.3	43.9		42.1	42.5	42.9	43.2	42.2	43.7	42.7	43.0	42.6
Mill	44.0	42.9	43.0	43.2	42.7	43.6		43.0	42.7	43.6	43.6		42.5	42.6	42.9	42.9	42.0	43.1	42.3	43.2	43.0
Av. diff.[b]	+0.5	-0.2	+0.4	-0.1	+0.4	+0.4		+0.2	-0.5	+0.3	-0.3		+0.4	+0.1	0.0	-0.3	-0.2	-0.6	-0.4	+0.2	+0.4
Max. diff.[c]	+0.9	-0.9	+0.8	-1.0	+1.7	+1.0		±0.5	-1.0	+0.6	-0.5		+0.4	+0.4	-0.2	-0.7	-0.7	-0.8	-1.0	+0.6	+1.2
Caliper																					
Institute	12.7	12.8	12.7	12.9	12.0	12.1		11.8	13.2	12.1	12.8		14.0	12.8	12.2	13.5	12.5	12.7	13.1	12.6	13.3
Mill	12.5	12.3	12.4	12.7	12.0	11.9		11.4	13.0	12.0	12.8		13.5	12.6	12.0	12.9	12.2	12.5	13.0	12.4	13.1
Av. diff.[b]	-0.2	-0.5	-0.3	-0.2	0.0	-0.2		-0.4	-0.2	-0.1	0.0		-0.5	-0.2	-0.2	-0.6	-0.3	-0.2	-0.1	-0.2	-0.2
Max. diff.[c]	-0.7	-0.6	-0.6	-0.3	-0.5	-0.3		-0.6	-0.5	±0.2	-0.2		-0.7	-0.5	-0.4	-0.9	-0.4	-0.4	-0.5	-0.4	-0.5
Bursting Strength																					
Institute	111	111	106	109	112	112		106	108	111	105		107	93	109	103	112	108	111	106	113
Mill	114	114	113	108	109	112		110	111	111	110		114	102	111	107	122	110	114	109	119
Av. diff.[b]	+3	+3	+7	-1	-3	0		+4	+3	0	+5		+7	+9	+2	+4	+10	+2	+3	+3	+6
Max. diff.[c]	+7	+11	+13	-5	-5	-4		+6	+5	-3	+7		+11	+13	+6	+10	+10	+5	+10	+8	+14
Tearing Strength, in																					
Institute	338	324	324	319	344	326		359	318	316	376		256	348	291	323	367	365	295	302	320
Mill	340	323	353	359	331	346		365	357	320	--		283	347	291	286	318	406	262	324	335
Av. diff.[b]	+2	-1	+29	+40	-13	+20		+6	+39	+4	--		+27	-1	0	-37	-49	+41	-33	+22	+15
Max. diff.[c]	+20	-18	+69	+68	-33	+56		+23	+65	+16	--		+46	-26	+21	-70	-60	+96	-49	+41	+37
Tearing Strength, cross																					
Institute	393	359	367	383	365	346		403	391	375	425		316	379	353	364	425	418	350	365	360
Mill	399	359	396	428	379	359		407	441	395	--		349	384	358	356	367	425	347	393	414
Av. diff.[b]	+6	0	+29	+45	+14	+13		+4	+50	+20	--		+33	+5	+5	-8	-58	+7	-3	+28	+54
Max. diff.[c]	-25	+20	+63	+67	+46	+40		+26	+73	+42	--		+42	+42	+21	-24	-64	+48	-28	+55	+99

[a] Comparison based on averages involved only those samples on which mill test data were submitted.
[b] Average difference is the difference between the Institute mill average and the mill average based on mill test data.
[c] Maximum difference encountered in comparing the Institute average and the mill averages for any sample submitted by that particular mill.

TABLE XXVI

COMPARISON OF INSTITUTE-MILL DIFFERENCES FOR JUNE AND JULY, 1962
(Average Difference, per cent)

Mill	Period	Basis Weight	Caliper	Bursting Strength	Tear, in	Tear, cross
A	Feb.-Mar.	+2	-2	+2	+3	+8
	Apr.-May	+1	-4	+5	+3	+2
	Current	+1	-2	+3	+0.6	+2
B	Feb.-Mar.	+0.5	-2	-0.9	-5	-3
	Apr.-May	+0.5	-3	+4	-0.6	+0.8
	Current	-0.5	-4	+3	-0.3	0
C	Feb.-Mar.	0	-3	-4	-2	-0.8
	Apr.-May	+0.5	-2	+2	+0.9	+2
	Current	+0.9	-2	+7	+9	+8
D	Feb.-Mar.	+0.9	0	-3	+10	+10
	Apr.-May	+0.5	-0.8	-0.9	+5	+5
	Current	-0.2	-2	-0.9	+13	+12
E	Feb.-Mar.	+0.5	0	-7	+3	+6
	Apr.-May	+0.7	0	+0.9	-6	+2
	Current	+0.9	0	-3	-4	+4
F	Feb.-Mar.	+0.7	-2	+0.9	+8	+6
	Apr.-May	+0.7	-2	+4	+7	+1
	Current	+0.9	-2	0	+6	+4
G	Feb.-Mar.	--	--	--	--	--
	Apr.-May	--	--	--	--	--
	Current	--	--	--	--	--
H	Feb.-Mar.	-1	-4	+0.9	-11	-5
	Apr.-May	-0.7	-3	+5	-8	-3
	Current	+0.5	-3	+4	+2	+1
I	Feb.-Mar.	-0.5	-2	-0.9	+6	+10
	Apr.-May	0	-3	+3	+3	+2
	Current	-1	-2	+3	+12	+13
J	Feb.-Mar.	0	-2	-2	-2	-3
	Apr.-May	+0.5	0	+2	-3	0
	Current	+0.7	-0.8	0	+1	+5
K	Feb.-Mar.	-0.7	-0.8	+0.9	--	--
	Apr.-May	-0.7	0	+6	--	--
	Current	-0.7	0	+5	--	--
L	Feb.-Mar.	--	--	--	--	--
	Apr.-May	--	--	--	--	--
	Current	--	--	--	--	--
M	Feb.-Mar.	-0.2	-2	+4	+3	+7
	Apr.-May	0	-4	+9	+7	-2
	Current	+1	-4	+7	+11	+10
N	Feb.-Mar.	--	--	--	--	--
	Apr.-May	--	--	--	--	--
	Current	+0.2	-2	+10	-0.3	+1
O	Feb.-Mar.	-0.9	-2	0	-5	+1
	Apr.-May	-0.7	-2	+2	-3	+2
	Current	0	-2	+2	0	+1
P	Feb.-Mar.	+0.5	-5	0	-5	+4
	Apr.-May	-0.9	-4	+1	-10	0
	Current	-0.7	-4	+4	-11	-2
Q	Feb.-Mar.	--	--	--	--	--
	Apr.-May	0	-2	+8	-12	-8
	Current	-0.5	-2	+9	-13	-14
S	Feb.-Mar.	-1	-2	-2	+9	+8
	Apr.-May	-0.7	-0.8	+0.9	+7	+5
	Current	-1	-2	+2	+11	+2
T	Feb.-Mar.	-0.2	-2	-0.9	-14	-2
	Apr.-May	-0.2	0	+2	-14	+0.6
	Current	-0.9	-0.8	+3	-11	-0.9
U	Feb.-Mar.	+0.9	0	+0.9	+13	+12
	Apr.-May	+0.7	-0.8	+5	+9	+11
	Current	+0.5	-2	+3	+7	+8
V	Feb.-Mar.	+1	-2	0	+4	+12
	Apr.-May	+1	-0.7	+4	+8	+17
	Current	+0.9	-2	+5	+5	+15

TABLE XXVII

SUMMARY OF AGREEMENT BETWEEN INSTITUTE AND MILL RESULTS

	Average Percentage Difference Between Institute and Mill Test Results								
	±0.5	±1	±2	±3	±4	±5	±7.5	±10	±15
Basis weight									
Number of mills	7	19							
Percentage of all mills	36.8	100.0							
Caliper									
Number of mills	2	4	15	16	19				
Percentage of all mills	10.5	21.1	78.9	84.2	100.0				
Bursting strength									
Number of mills	2	3	5	11	13	15	17	19	
Percentage of all mills	10.5	15.8	26.3	57.9	68.4	78.9	89.5	100.0	
Tearing strength, in									
Number of mills	3	5	6	6	7	8	10	11	18
Percentage of all mills	16.7	27.8	33.3	33.3	38.9	44.4	55.6	61.1	100.0
Tearing strength, cross									
Number of mills	1	5	8	8	10	11	11	14	18
Percentage of all mills	5.6	27.8	44.4	44.4	55.6	61.1	61.1	77.8	100.0

TABLE XXVIII

PRECONDITIONING AND CONDITIONING DATA FOR MILL TESTS

Mill Code	Preconditioning			Conditioning		
	Relative Humidity, %	Temperature, °F.	Time, hr.	Relative Humidity, %	Temperature, °F.	Time, hr.
A		None		50	73	24
B	33-34	77-78	8	48-52	72	16
C	50	70-72	24	50	70	24
D		None		56-58	70-72	--
E		None		50-54	73	24
F		None		50	73	24
G		No samples submitted				
H		None		51-55	73	48
I	50	70-72	120	50	70-72	120
J	50	73	24	50	73	24
K		None		50	73	24-288
L		No samples submitted				
M	50-52	73	96-120	50-52	73	96-120
N	50	72-73	24	50	73	24
O	36-86	74-88	0.5	50	73	24
P	46-49	76-78	48	46-49	76-78	3
Q	50	72-73	48-72	43	81	--
S	49-50	70-74	48	50	73	48
T		None		60-90	80-96	--
U	35	73	24	50	73	48
V	50	72	24		None	

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